

# EC2010 (3-1) PROBABILISTIC ANALYSIS OF SIGNALS & SYSTEMS

Summer Quarter AY2003

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**Text:** Tummala/Therrien *Probability for ECE* (download from web)

**Course web site:** <http://web.nps.navy.mil/~therrien/EC2010/EC2010.html>

## Course outline

Week	Topic	Reading	Homework
1	The Probability Model		
2	Conditional Probability; Combinatorics		
3, 4	Random Variables		
5	Transformations, Expectation, Moments, and Generating Functions		
6	Two or More Random Variables		
7	Limit Theorems		
8	Introduction to Random Processes & 2 <sup>nd</sup> Moment Analysis		
9	Spectral Analysis and Transformation by Linear Systems		
10	Markov and Poisson Processes		
11	Introduction to Queueing Theory		

USE THIS TABLE TO FILL IN READING, HOMEWORK ASSIGNMENTS AND DATES DUE, EXAMS, ETC.

## **Lectures, reading, and homework problems**

You are responsible both for the material presented in the lectures and the material in the assigned sections of the text. Both the text and the lecture slides are available for downloading on the web site. There is also a free copy of Adobe ebook reader if you wish to use that method for studying the text instead of printing a hard copy. .Although I will expect that you have downloaded copies of the slides before each class; please also take notes in class. Problems will be assigned each week and solutions will be posted the following week.

## **Problem sessions**

We will schedule some problem sessions during the extra (4th) period. It is intended to help you learn how to approach and solve problems using probabilistic methods so that you can complete the homework on your own.

## **Computer assignments**

There will be four computer assignments to be turned in. These will form a part of your grade in the course (see “Grading” below). Although you may “cross-check” results with other students, you are expected to complete and write up each assignment on your own. The computer assignments are the “labs;” there is no formal lab period.

## **Quizzes and exams**

There will be a midterm exam and two short quizzes. Quizzes will be approximately 20 minutes long. The midterm exam will be given after the 4<sup>th</sup> week. There is a regularly scheduled final exam which will be comprehensive. Unless otherwise stated, there will be no sheets of notes allowed.

## **Grading**

Credit toward the final grade will be determined as follows:

Computer assignments	25%
Quiz #1	7 1/2%
Quiz #2	7 1/2%
Mid term	20%
Final exam	40%
<b>Total</b>	<b>100%</b>